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RE: W.R. Grace's Comments Regarding Unilateral Administrative Order (Docket CERCLA 8-2000-10), Letter Dated June 9, 2000

Dear Mssrs. Lund and Cleary:

EPA has received Kenneth Lund's letter dated June 9, 2000, regarding the abovementioned Unilateral Administrative Order (UAO). In that letter, W.R. Grace (Grace) raises a number of issues concerning the appropriateness of EPA's choice of the response action at the former W.R. Grace Export Plant (the "Facility") located in Libby, Montana. The purpose of this letter is to once again outline the basis for the UAO and to respond to those concerns.

Imminent and Substantial Endangerment

EPA has determined that there may be an imminent and substantial endangerment to individuals working on and living next to the Facility. There currently exists a body of scientific and medical information demonstrating that human exposure to the type and quantity of asbestos found at the Facility may result in permanent disabling disease and death. EPA has compiled many of these studies in the administrative record for the two removal actions in Libby; that record is available for public review. In addition, in consultation with the United States Public Health Service, the Agency for Toxic Substance and Disease Registry and the Lincoln County Medical Officer, EPA has determined that there are, in fact, non-occupational exposures to asbestos in Libby that have caused asbestos-related disease. The written recommendations of these entities, as well as that of EPA's toxicologist, are also available in the administrative record.

NCP Response Criteria

As specifically discussed in the Action Memorandum approving the removal action at the Facility, the conditions present at the Facility meet the National Contingency Plan ("NCP" at 40 C.F.R. § 300) criteria for performance of a time-critical removal action. Section 300.415(b)(1) of the NCP indicates that where the Agency determines there is a threat to public health or the environment, EPA may take "any" appropriate action to respond to the release or threat of release causing the endangerment. The factors that EPA must consider in determining that a threat to public health or the environment exists are found at 300.415(b)(2) of the NCP. EPA has determined that five of the factors apply at the Facility.

The first factor, found at 300.415(b)(2)(i), indicates that response is appropriate where there is "actual or potential exposure to nearby human populations ... from hazardous substances or pollutants and contaminants." As indicated by Grace in its June 9th letter, it is "an undisputed fact that there is asbestos in the soils of the Export Area." Currently, people work at the Facility, visit the Facility and live adjacent to the Facility. The asbestos is present in the soils of high-traffic, unpaved areas which are used by the public on a daily basis. These facts clearly indicate both potential and actual human exposure occuring on a daily basis. The existence of this exposure is further supported by samples of dust and indoor and outdoor air in and around the Facility which show the presence of asbestos fibers. (See sampling results in the administrative record.) It should be noted that the data referenced in the Action Memorandum and its attachments were collected during times of low activity and during wet conditions which would tend to suppress the concentrations of fibers measured, yet still showed the presence of fibers. Subsequent sampling during times of greater activity and during drier weather shows higher levels of asbestos in the indoor and outdoor air at and near the Facility than those previously reported, as predicted in the Action Memorandum. A review by physicians with the U.S. Public Health Service indicates that exposure to similar concentrations of Libby asbestos in the Minnesota, Marysville OH, and Whitehouse cases caused sickness and death in both occupational and non-occupational settings. The existence of a complete exposure pathway between asbestos in soils and the people present in and around the Facility cannot be disputed.

The second applicable criterion, found at 300.415(b)(2)(iii), indicates that response is appropriate where EPA finds "hazardous substances or pollutants and contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release." Vermiculite containing asbestos has been found in bags and other containers at the Facility. The mere presence of these abandoned containers constitutes a release as defined by CERCLA. No data showing elevated airborne concentrations of asbestos fibers is needed to support the need to remove such uncontrolled hazardous substances.

The third applicable criterion, found at 300.415(b)(2)(iv), indicates that a response action is appropriate where EPA determines that there are "high levels of hazardous substances or

pollutants and contaminants in soils largely at or near the surface, that may migrate." Despite sampling during periods where the ground was wet and wind conditions quiet, EPA found asbestos fibers in buildings, in automobiles and in the air. It is logical to assume that the source of these asbestos fibers is asbestos in the soil which has migrated by wind or water or by incidental transport on shoes or other objects which come into contact with soil or air contaminated by migration from soil. Some of the non-occupational asbestosis cases in Libby are believed to have been caused by asbestos fibers carried home on the clothes of W.R. Grace workers. Samples of clothing taken from persons living at the Screening Plant show that such migration is continuing to this day.

The fourth applicable criterion, found at 300.415(b)(2)(v), indicates that a response action is appropriate where EPA finds that there could be "weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released." As discussed previously, asbestos fibers are present in the soil at the Facility. Measurement of fibers in air and dust at the Facility occurred during periods of wet and quiet conditions. It is reasonable to expect that migration of asbestos fibers would worsen during dry and/or windy conditions and would also occur during spring rains and snowmelt.

The fifth and final applicable criterion, found at 300.415(b)(2)(vi), considers "the availability of other appropriate federal or state response mechanisms to respond to the release." No other federal or state program has the resources necessary to address the situation at Libby. The Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9601 et seq., provides the appropriate mix of response authorities, fund resources and enforcement tools to ensure that EPA can address all aspects of the release or threatened release of asbestos into the Libby environment.

No Requirement for a Risk Assessment

Your letter indicates that W.R. Grace believes that a risk assessment is required prior to implementing a time-critical removal action under CERCLA. In supporting this assertion, Grace relies inappropriately on reference to EPA's Model Unilateral Administrative Order for Removal Response Activities (the "Model") and to a draft guidance document concerning potential methods for determining the releasibility of asbestos from soils and bulk materials. Nothing in CERCLA or the NCP requires EPA to perform a risk assessment prior to initiating a time-critical removal action. The annotation cited by Grace in the Model states that "Regions should include a discussion of the following points: ... data showing that the releases or threats of releases may present an imminent and substantial endangerment, e.g., exposure routes, risk assessment, affected populations, environmental harm, potential for fire or explosion, and other dangers." (emphasis added) The examples of discussion topics are just that, they are not requirements. The Model is meant to cover a wide range of removal activities, from emergency actions to non-time-critical removal actions. In a non-time-critical removal action, where there is a planning period of more than six months, it may be appropriate in some circumstances to perform a risk assessment. The Model simply provides a reminder that such a discussion may be appropriate if a risk

assessment has been performed. Grace's reading of "e.g.," would require EPA to discuss the potential for fire or explosion even though there is no potential for asbestos to explode. Where the Model suggests discussion of data relevant to this time-critical removal action, EPA has discussed such factors (e.g., exposure routes, affected populations).

Grace's reliance on the dust generation guidance is also misplaced. This draft document, produced by ICF Technology, is still under review by EPA. Please note that on page ii there is a disclaimer which states that EPA's contractual "support does not signify that the work, or the conclusions drawn from the work necessarily reflect the views and policies of the Agency...." The document is simply wrong; there is no statutory or regulatory requirement for a risk assessment to support risk management decisions in time-critical removal actions.

Grace also seems to rely on a discussion in the NCP concerning risk ranges to suggest that a risk assessment is required and that the risk at Libby falls within an acceptable range. First, it is important to point out that the cited section of the NCP, 40 C.F.R. § 300.430(e)(2)(i)(A)(2), is a remedial requirement and is not meant to apply to time-critical removals. Second, that section of the NCP indicates that the "10^{-6} risk level shall be used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective ...." At this time, only the OSHA occupational ARAR is based, in part, on risk. An occupational ARAR is not sufficient to protect those in a residential setting. Thus, EPA does not believe that a sufficient array of ARARs are available for current exposure pathways and that the current ARARs are not protective.

If EPA were to follow Grace's suggestion that a full risk assessment be performed prior to initiation of these time-critical removal actions, people living and working near the Facility would be further exposed to the tremolite asbestos fibers during the pendency of the study. While medical conditions resulting from such exposure would not become obvious for many years, the effect remains real, debilitating and deadly. EPA is unwilling to risk a continued exposure to asbestos that may cause people to contract fatal asbestos related illnesses before EPA takes necessary action. This is especially true where so many people have already become sick and died from exposure to asbestos contaminated vermiculite generated by Grace from the Libby mine, even though their exposure was not occupationally related. EPA should not wait years to see changes on the x-rays of the people who work and live on or near these properties before taking steps to protect them. It would be inappropriate for the Agency to conduct protracted and unnecessary procedural steps when the health risks are so evident.

The Agency embarked on the first steps of a risk model based on preliminary air sampling collected during our investigations in Libby. These samples were not designed to fully support an integrated mathematical risk model of the site. Most samples were collected during times of little to no physical activity on the site during weather conditions when one would least expect to find airborne fibers. We have not yet collected many samples needed to simulate exposure scenarios at the site. Nonetheless, Dr. Weis's analysis with this limited data set also supports the conclusion that people in and around Libby are being exposed to unsafe levels of asbestos fibers. As we

move further into investigating the situation in Libby, where the concentrations of asbestos are not so high nor the risk so obvious, we may rely more heavily on an integrated math-based model. However, before we do so, we may collect many additional samples, model many exposure scenarios, and revamp the Agency's national risk assessment model for asbestos.

Analytical Issues

Throughout the June 9th letter, Grace asserts in a variety of ways that EPA has measured a "paltry number of fibers in the air", used an inappropriate fiber counting method (ISO 10312) and not accounted for the physical matrix in which the asbestiform mineral fibers are found. These arguments ignore both the intention of the data collection effort and the factual findings resulting therefrom. As outlined in EPA's Sampling and Analysis Plan (as amended on January 14, 2000), the first phase of data collection was designed to characterize the physical distribution of asbestos in Libby. To this end, EPA collected hundreds of soil and insulation samples and analyzed them by Polarized Light Microscopy ("PLM"). The results of this effort indicate the presence of high concentrations of asbestos at the Export Plant, as previously described in EPA's Action Memorandum. EPA has engaged the USGS and a number of private laboratories to characterize the nature of these fibers. These investigations have found, among other things, that:

1) asbestos contaminated media in Libby contains fibers in the respirable range;
2) bundles, clusters, and micro-structures easily cleave to produce a respirable fiber, whether found in tremolite rock, contaminated soil, or unexfoliated vermiculite;
3) fibers ranging from submicron cleavage fragments to greater than 40 microns exist in the solid media tested; and
4) the fibrous materials within the solid samples have high electrostatic surface charges, which cause the fibrous materials to aggressively be attracted to and cling to clothing, gloves, skin and other material.

USGS was so concerned about the nature of the asbestos fibers found in the solid matrix samples collected in and around Libby that the USGS has mandated the use of respiratory protection and/or the use of HEPA filtered fume hoods when handling Libby samples.

The number of fibers counted in air samples is not "paltry." The entire data set, as well as EPA's Sampling and Analysis Plan provide the intended use for the air samples and a sufficient set of air sampling data. EPA never intended for the samples collected this past winter to be the only data to fully support a formal risk assessment. To collect enough samples for a formal risk assessment, EPA would have to collect appropriate samples to model a number of conditions, activities and exposure scenarios. Nonetheless, the identification of a full range of different size airborne fibers in many sampling locations raises EPA's concern about asbestos fibers around the areas targeted for removal actions this summer. During a visit to the Libby Asbestos Site, one of EPA's On-Scene Coordinators observed a nine year-old girl pick up what was later determined to be a tremolite rock, and smash it to the ground. The rock fragmented, enveloping the girl in a small cloud of dust and debris. While not scientifically determinative, the event is nonetheless

revealing and shocking. EPA does not intend to allow conditions to get worse, exposing more people to higher concentrations with more fibers, before taking or ordering actions to abate this threat.

Grace has on many occasions raised concerns about the use of ISO Method 10312. EPA has, in response, provided Grace with the reasons and justification for the use of that method. (See April 4, 2000 letter to William Corcoran.) This method was selected largely for the great care it prescribes in counting, measuring and characterizing fibers. It uses the same transmission electron microscope ("TEM") that is called for by NIOSH Method 7402, Yamata, AHERA, or any number of standard fiber counting techniques. Although it counts fiber bundles differently than these methods, and in some cases uses a different aspect ratio for "binning" fibers, the information collected on the raw count sheets can be used to reproduce the results of any of the other TEM methods, as was done with Dr. Weis' risk estimate memorandum. It is unclear what final outcome Grace intends by its arguments about Method 10312. If Grace is suggesting that EPA should limit its analysis to Phased Contrast Microscopy ("PCM"), EPA must reject Grace's advice. PCM does not have the ability to identify and measure most of the asbestos fibers EPA has found in Libby. It does not have the analytical sensitivity that TEM does, nor does it allow for the identification of fiber type or measurement of the particular physical characteristics of the fibers detected. To the degree that Grace argues that NIOSH 7402 is the appropriate method, Grace can convert the ISO 10312 information reported on the raw data sheet to the NIOSH measurement.

Grace asserts that EPA may be using ISO Method 10312 as a backdoor means for raising regulatory standards. This is not true: EPA is not changing the requirements of any regulatory program. The use of this method will not effect the definition of regulated asbestos containing material under TSCA, nor any of the rules governing the abatement of such material. EPA is not relying on these potential ARARs to determine a protective standard in Libby, as these standards are not risk-derived. While the OSHA standard is partially derived on risk estimates, it would not be appropriate in non-occupational settings at Superfund sites. The ARARs simply set a floor on which to develop a fully protective standard. Thus, EPA has no need or desire to change such ARARs in the context of Libby.

Consideration of alternatives and EPA's Scope of Work

On several occasions in its June 9th letter, Grace raises objections to EPA's Scope of Work ("SOW") required by the UAO, and to what Grace alleges as a failure to consider other less risky alternative actions. EPA has, in fact, considered a number of factors and in-situ alternatives, prior to determining that disposal away from the Facility was the most appropriate. Excavation and disposal away from the Facility offers a permanent remedy for the Export Plant, with no long-term monitoring or maintenance required. A cap with institutional controls that must be enforced in perpetuity is not likely to be effective, as the location of the Facility immediately adjacent to the river and residential units makes the efficacy of the cap uncertain and the enforcement of the

controls difficult. EPA does not believe it appropriate in this circumstance to impose permanent controls significantly limiting the use of a large parcel of land in the center of a small town.

Grace's concern about the safety of excavation and transportation of contaminated soils is unfounded. EPA has performed hundreds, if not thousands, of response actions which include excavation and transportation of wastes. Using appropriate dust control and other safety measures, EPA has successfully avoided any further exposure to local populations. It should be noted that capping, absent appropriate dust control, would likely release fibers into the air. If Grace is concerned that it is not capable of performing this work in an appropriate fashion, it should notify EPA immediately. When providing the estimates for material that needs to be excavated and the distance traveled in effecting disposal, Grace has overstated the area to be excavated by 50%, thus inflating the amount of waste and distance traveled. However, EPA does agree with your concern about traffic safety. Increasing the number of miles traveled by using Spokane instead of the mine site raises the risk that there could be an accident. Thus, it is EPA's preference that the mine site be used as a repository.

Grace raises several issues that have already been resolved. For example, Grace indicates that it is being required to demolish buildings, without any evaluation of whether it is feasible to decontaminate the structures. Quite to the contrary, EPA has indicated to Grace both in the UAO and in later discussions that it may perform such an evaluation. In addition, Grace raises objections to EPA requiring the removal of foundations and the preparation for paving of the cleaned area. EPA has specifically informed Grace at meetings on the development of a Work Plan that such actions are not necessary.

Grace claims that EPA has required the payment of "money damages" to those being temporarily relocated from the Facility. Indeed, EPA has directed Grace to provide temporary relocation of the businesses at the Facility. Section 2.1 of the Removal Action Scope of Work provides a discussion of the types of expenses that Grace should pay or reimburse as part of that temporary relocation. EPA has specified that these expenses be in accordance with the temporary relocation requirements of 44 C.F.R. § 220 to ensure that Grace only need pay expenses where such expenses would normally be covered by federal regulations. EPA has not required Grace to pay any "money damages", but simply to provide those relocated with equivalent facilities at no expense beyond that normally paid by the payee at the Facility.

Conclusion

Grace's assertions are not supported by the facts of, nor the administrative record for, this case. Quite contrary to Grace's criticism, the choice of methods and response actions for this Facility is consistent with the NCP and CERCLA.

Sincerely,

Max H. Dodson
Assistant Regional Administrator
Office of Ecosystem Protection and Remediation

cc: Paul Peronard EPR-ER
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